Fisheries and Oceans Canada | Pêches et Océans Canada
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Canadian Science Advisory Secretariat
Quebec Region | Science Response 2013/025

# UPDATE OF MAIN INDICATORS OF THE STOCK STATUS OF GREENLAND HALIBUT IN THE GULF OF ST. LAWRENCE (4RST) IN 2013

## Context

The stock assessment of Greenland halibut (*Reinhardtius hippoglossoides*) in the Gulf of St. Lawrence (4RST) is conducted every two years, with the most recent assessment completed in February 2013. In interim years, a summary review of the resource's main indicators is made in order to determine whether major changes in the stock status would warrant more in-depth study prior to the planned assessment in the winter of 2015. This update was prepared to provide Fisheries Management with an overview of the most recent stock status.

This Science Response Report results from the Science Special Response Process from October 18, 2013 on the update of main indicators of the stock status of Greenland halibut in the Gulf of St. Lawrence (4RST) in 2013.

## Analysis

The fishing season was still ongoing at the time of this update. On October 10, 2013, directed fishery landings of Greenland halibut with fixed gear was 2 124 t out of a potential allocation of 3 607 t, or 59% of this allocation. On the same date in 2011 and 2012, 98% and 91% of the authorized allocations of 3 512 t and 3 534 t, respectively, had been reached.

### Stock Status Indicators

The biomass index from the DFO survey decreased in 2013 (Figure 1). It is close to the mean for the series (1990–2012), but is the lowest value since 2000. The biomass index from the Sentinel Fisheries Program survey indicates a constant decrease since 2007 and is well below the series mean. The 2013 value is among the lowest values observed since the start of this survey.

The abundance of pre-recruits (40–43 cm) and recruited fish (> 44 cm) in the DFO survey decreased by 28% and 41%, respectively, compared to 2012 (Figure 2). The abundance of fish that will be available to the fishery in 2014 (40 cm and above) has therefore decreased and is now close to the mean.

The size frequency distributions for 2013 (Figures 3 and 4) show that fish at age 1 (15–20 cm), the 2012 cohort, are more abundant than the mean for the 1990–2012 period. There is a relatively small amount of fish at age 2 (20–30 cm), the 2011 cohort. Lastly, age 3+ fish (30 cm and over) are of average abundance compared to the 1990–2012 period and less abundant than in 2012.

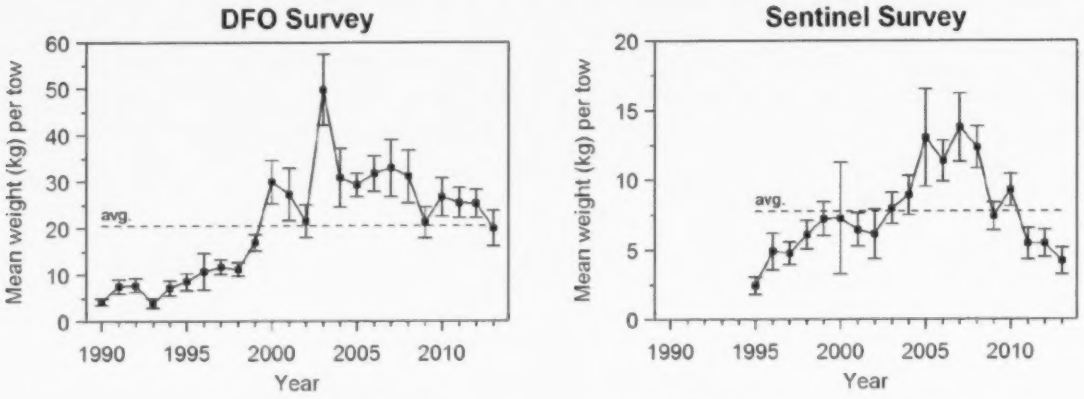


*Figure 1. Mean weight of Greenland halibut per tow observed in DFO and Sentinel Fisheries surveys.*

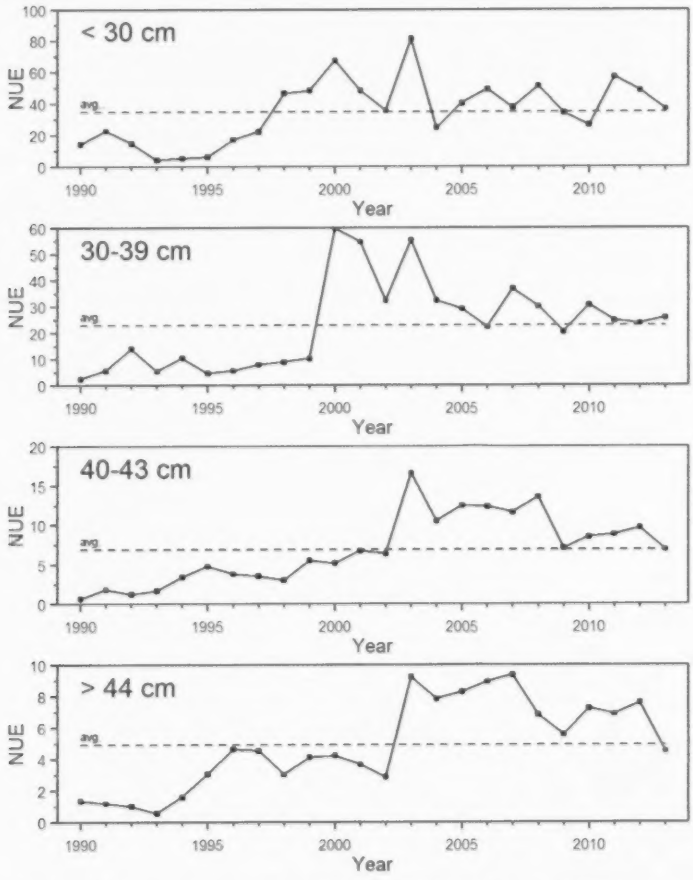


*Figure 2. Abundance indices of Greenland halibut for the different size categories observed in the DFO survey.*

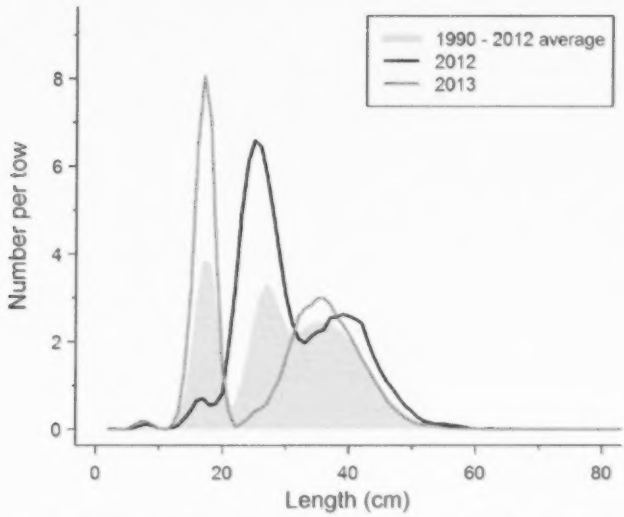


*Figure 3. Size frequency distribution of Greenland halibut observed during DFO survey.*

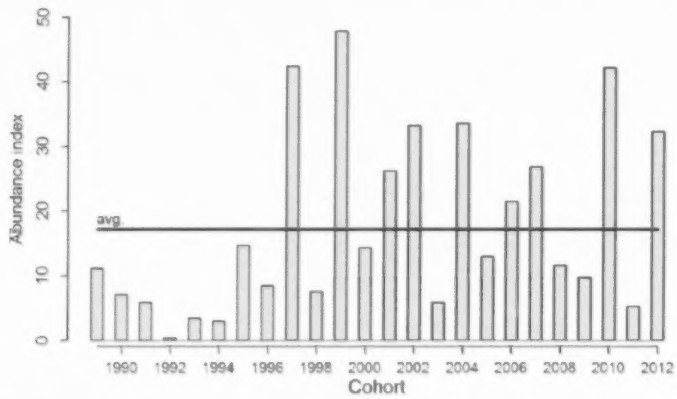


*Figure 4. Recruitment index of Greenland halibut measured for each cohort at age 1 on the DFO survey.*

## Conclusions

No information on the fishery performance and the distribution of effort was considered for this update. The only information analyzed from the fishery is landings, and this shows a significant drop in comparison to the same date in 2011 and 2012. The fishing season will continue until May 14, 2014.

The research surveys indicators show a decreased abundance of fish in 2013. Their numbers are comparable to or lower than the historical averages, while in the previous assessment, in February 2013, they were above, equal or lower the averages.

The abundance index of commercial-size fish is lower than was observed in 2012. Furthermore, the age classes that should contribute to the fishery in 2014 are of average or low abundance.

It will be necessary to conduct a more in-depth analysis and peer review to explain the decreases observed in 2013 and re-evaluate the level of landings for the next season. In light of this update, it is unlikely that the stock status will improve in 2014.

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## Sources of information

This Science Response Report results from the Science Special Response Process from October 18, 2013 on the update of main indicators of the stock status of Greenland halibut in the Gulf of St. Lawrence (4RST) in 2013.

DFO. 2013. Proceedings of the Quebec Regional Peer Review on the Assessment of the Gulf of St. Lawrence Greenland Halibut Stock (4RST); February 26, 2013. DFO Can. Sci. Advis. Sec. Proceed. Ser. 2013/028.

DFO. 2013. Assessment of Greenland halibut in the Gulf of St. Lawrence (4RST) in 2012. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2013/039.

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